

Oceanography (cont. from p. 539)

Nelson, T. S., Wind stress and wind stress curl over the California Current, NOAA Tech. Rep., NMFS SSRF-14, 87 pp., Nat. Oceanic and Atmos. Admin., Washington, D.C., 1977.

Olivera, K. M., A complex circulation of water masses and related circulation off northern California in July 1981, M.S. thesis, Ore. State Univ., Corvallis, Ore., 1983.

News & Announcements

Ocean Sciences Award



Richard C. Vetter

The Ocean Sciences Section of the American Geophysical Union wishes to recognize the outstanding contributions made by Richard C. Vetter. He will, at the end of June, complete a long and outstanding tenure at the National Academy of Sciences. We are told that Dick has actually served at the Academy for more than 25 years, but we find this hard to believe! Dick has served as the principal, and almost always the only, staff officer to the early Committee on Oceanography (known as NASCO); the Ocean Affairs Board; and the Ocean Sciences Board. Now the Academy is going through another of its almost patented reorganizations and, as a result, Dick is moving on. He will be missed by all of us and by his colleagues in other countries as well.

Dick was responsible for the planning, organization, and follow-up of Academy meetings and workshops too numerous to mention. Dick's efforts were instrumental in enabling the Academy, as a result of these activities, to make recommendations to the federal government regarding the future funding of ocean sciences; the organization and structure of the federal government's oceanographic effort; the development of improved ocean science facilities, including the academic fleet; the development of the marine science provisions of the UN Law of the Sea Treaty; and other important issues.

Dick has long been a strong advocate of the Scientific Committee on Ocean Research (SCOR). He has staffed the U.S. National Committee for SCOR and actively participated in SCOR activities as well. He has arranged for U.S. scientists to serve on SCOR working groups and to participate in other SCOR activities, such as the Joint Oceanographic Assemblies. Dick has been actively involved in strengthening SCOR and enabling it to provide sound direction to major new international oceanographic research programs, including the International Decade of Ocean Exploration and its component activities, such as MODE, NORPAX, GEOSECS, CUEA, etc.

It's not easy to get blood from a turnip, but Dick's efforts to extract funding from up to 10 different federal agencies to support the Academy's ocean science activities have probably been even more difficult. Yet, because of his excellent relations with these agencies, developed over many years; because of his skills in administration and management; and because of his thorough understanding of oceanographic research, Dick has been able to obtain for the Academy the financial support so necessary for its ocean science activities.

Throughout his tenure at the Academy, Dick has worked with all of our biogeophysical oceanographers—sometimes with 10 or 15 of them in the same room at the same time. The impact on Dick's blood pressure as a result of these meetings can only be imagined! Trying to get the Ewings, Ketchums, the Revellings, the Woosters, etc., to agree on major issues is a task we certainly don't envy. Yet, Dick managed to do this and throughout maintained a warmth and a humor in dealing with his constituency. He published the periodic newsletters describing the activities of his office and the rises and falls of the members of the clan. He peppered this offering with the "doodles" of the great and the near great, doodles that were made at the meetings of marine scientists who were his associates. These doodles tell a great deal about the artists that made them; they will remain an important heritage of U.S. marine science in the second half of the 20th century.

Many of us will remember Dick as the "personified tickler," but a tickler with style. Our priorities have sometimes forced us to set aside our obligations to the National Academy of Sciences and the National Research Council. Dick, in his notes, would remind us of our commitments—usually in a delightful way that encouraged us onward and upward.

Dick has a sense of recall which has served us all well at our meetings and conferences. He might be described as the "oral historian" of U.S. marine science. We hope he will be able to continue to serve the ocean sciences community in the future as well so that we can continue to benefit from his competence, his experience, and his concern for oceanography. But today, we honor him by presenting him with the Ocean Sciences Award.

Christopher N. K. Moores
President
Joseph L. Reid
President-elect
Peter C. Brewer
Secretary
May 31, 1983

Plan to Attend The AGU Chapman Conference on Magnetic Reconnection

October 3-7

Los Alamos National Laboratory
Los Alamos, New Mexico 87545

Convenor: E. W. Hones, Jr.

Magnetic Reconnection was identified 5 years ago, in a study sponsored by the NAS Space Science Board, as a problem vital to further understanding of space plasmas and having important implications beyond the study of solar system plasmas. The forthcoming conference examines our present understanding of magnetic reconnection as a physical process and our perception of its roles in planetary and stellar magnetospheres (particularly those of the earth and sun) and in laboratory and fusion research. Specifically, there will be sessions devoted to theory, modeling, earth's magnetosphere and ionosphere (including talks on ISEE 3 observations in the distant tail), fusion research, and astronomical objects (sun, comets, and Jupiter).

The registration fee, \$65 (\$33, 50% off for students), includes the conference banquet and picnic.

Some student travel grants still remain. To apply, write to Magnetic Reconnection Meeting, American Geophysical Union, 2000 Florida Avenue, N.W., Washington, DC 20009, giving your educational background and your research interests.

Write or telephone the convenor (505-667-4727) to obtain copies of the program, registration and housing forms, or other information. The deadline for housing reservations is September 9; the deadline for meeting registration is September 19.

Chapman Conference on Natural Variations in Carbon Dioxide and the Carbon Cycle

January 9-13, 1984 Tarpon Springs, Florida
Convenors: E.T. Sundquist and W.S. Broecker

Natural Variations in Carbon Dioxide and the Carbon Cycle will bring together geologists who are studying various aspects of carbon cycle history; geochemical modelers; and biologists, oceanographers, and meteorologists who are familiar with present and potential future relationships among the carbon cycle, atmospheric CO₂, and climate.

CALL FOR PAPERS PUBLISHED IN EOS, JULY 19
ABSTRACT DEADLINE SEPTEMBER 15

Both invited and contributed papers will be allotted at least 30 minutes for each oral presentation. If there is sufficient demand, space and time will be made available for poster sessions.

For abstract format and meeting logistical information contact: AGU Meetings, 2000 Florida Avenue, N.W., Washington, DC 20009 (202) 462-8903.

For program information contact: E.T. Sundquist, U.S. Geological Survey, 431 National Center, Reston, VA 22082 (703) 860-8083.

Acceptance

To say that my emotions are "mixed" is an obvious understatement. I am completely and delightfully surprised. I am also a little bit embarrassed to be so honored by my friends, and I'm proud.

I am completely and thoroughly surprised particularly because my normally efficient intelligence network didn't provide even the slightest signal that this marvelous event was being prepared. Perhaps I should have been alerted when two different people asked me if I would be here today, but I knew they were speakers and thought their query in me merely part of their campaign to secure an audience.

Obviously it is a great honor to receive the Ocean Sciences Award from the American Geophysical Union Ocean Sciences Section, though while listening to the citation, with its catalogue of my accomplishments, I did start to wonder whether the authors knew the same Dick Vetter that I know.

Looking back, and thanks in part to the award you have given me, I can honestly say that I am proud of my twenty five and one half years of service to you as the staff officer for the National Academy of Sciences' ocean science groups. There have been times in the past (particularly in the last few years) when I have wondered whether or not what I have done has made any difference, whether it has been important. You have helped me realize that it has mattered. Thanks. Now I am convinced of the truth of the quotation from Aristotle that is chiseled in the granite frieze along the top of the front wall of the National Academy of Sciences building (two bad that it's in Greek, so that most of us can't read it). It translates as follows:

"The search for Truth is in one way hard and in another easy. For it is evident that no one can master it fully nor miss it wholly. But each adds a little to our knowledge of Nature, and from all the facts assembled there arises a certain grandeur."

Aristotle
Metaphysics A. 1. 995a30-995a34

Richard C. Vetter

Second JECSS Workshop

The Second Japan and East China Sea Study (JECSS) Workshop, which was held April 22-27, 1983, at Tsukuba University, Japan, will publish proceedings in spring 1984. Convened by Takashi Ichiji (Texas A&M University) and Kenzo Takano (Tsukuba University), the purpose of the workshop was to assess oceanographic research of these seas, including modeling and observational techniques, and to promote the cooperation of oceanographers in studying the marginal seas. The Workshop was supported by JSPS Japan and the Japan Marine Science and Technology Center (JAMSTEC) and also sponsored by AGU, the Oceanographic Society of Japan and the Japanese-French Oceanographic Society. The JECSS program has been designated as a program that contributes to the objectives of WESTPAC, the IOC-UNESCO international program. JECSS-III will be convened in Japan in 1985 and the JECSS newsletter would be published quarterly by JAMSTEC.

This news item was contributed by Takashi Ichiji, Department of Oceanography, Texas A&M University, College Station, TX 77843.

News (cont. from p. 537)

goro 57, Bandung, Indonesia; Norman Banks, USGS Hawaiian Volcano Observatory, Hawaii Volcanoes National Park, HI 96718 USA; Michael Mason, Land Sciences Branch, NOAA/NESDIS, Room 307, Suitland Professional Center, Washington, DC 20233 USA; Jamie Hawkins, Otto Karst, and Sheldon Kesselton, Satellite Analysis Branch, NOAA/NESDIS, Room 401, 5200 Auth Road, Camp Springs, MD 20233 USA; Agence France Presse; Antara News Agency, Jakarta, Indonesia; United Press International.

Submarine volcano, off the W coast of New Britain Island, Papua New Guinea (3.2°S, 148.37°E). All times are local (= UT + 10 hours). The following is a report from C. O. McKee and P. de Saint Ours.

"An unnamed seamount, 30 km NNE of Cape Gloucester, W New Britain, may have been the site of a short-lived eruption on June 15-16.

"A subterranean swarm of long-period earthquakes was registered by several seismic stations in Papua New Guinea between 1913-2001 on June 15 and 0427-0450 on June 16. The swarm was recognized when the records were analyzed at Rabaul Volcano Observatory in early July. Preliminary determinations indicated shallow origins over a broad area at the W extremity of New Britain.

"Inquiries with the local people resulted in accounts of 'sounds like a jet plane coming from the sea, mud glow in the sea a long distance from the coast.' Northeastward migration of the Incandescence was also reported, possibly suggesting a fissure eruption.

"Airborne observations on July 28 failed to find water discoloration or any other evidence of the 6-week-old event.

"Until further information is obtained, the most likely source for these phenomena is a large seamount mapped in the general area of earthquake locations and visible reports."

Information Contact: C. O. McKee and P. de Saint Ours, Rabaul Volcano Observatory, P.O. Box 386, Rabaul, Papua New Guinea.

Earthquakes

Date	Time (UT)	Magnitude	Latitude	Longitude	Depth of Focus	Region
July 3	1714	6.1M	9.66°N	83.64°W	shallow	S Costa Rica
July 5	1112	6.4M	22.56°S	171.02°E	45 km	S Pacific Ocean
July 5	1201	5.7M	40.33°N	27.23°E	10 km	NW Turkey
July 11	1256	5.9M	60.90°S	62.94°W	10 km	Scottia Sea
July 12	1510	6.3M	61.03°N	147.58°W	37 km	S Alaska, USA
July 21	0240	5.9M	36.19°N	120.39°W	10 km	Cent. California, USA

*7.0M, University of California, Berkeley

Information Contact: National Earthquake Information Service, U.S. Geological Survey, Stop 987, Denver Federal Center, Box 28046, Denver, CO 80282 USA.

Meteoritic Events

Fireballs: Burma, Thailand, England, Bay of Bengal, India, Indian Ocean, Italy (3), Nigeria, mid-Atlantic, and Ohio, USA.

Books

Major Structural Zones and Faults of the Northern Appalachians

P. St-Julien and J. Beland (Eds.), *Spr. Pap.* 26, Geological Association of Canada, Waterloo, Ont., x + 280 pp., 1982, \$24 (members), \$39.

Reviewed by Edward S. Bell

This work, the first really important one to include a wide spectrum of views since the "Billings volume" of 1968, assesses the status of the geology of the Northern Appalachians. The terrain considered in a dozen articles occurs in New England, Quebec, and eastern Canada. This has been a region of intense research due to the rapid evolution of plate tectonic models as the geology has become better known.

The book is of considerable importance because nearly all the eminent researchers from the past decade have contributed to it and, unlike the Billings volume, the authors were asked to focus on major stratigraphic-geologic terrain, their boundaries, and their regional context. As a consequence of this commitment of purpose, most authors attempted regional evolutionary syntheses from their own perspective. The reader can thus construct a checklist of consensus and disagreement and, from that, quickly focus on areas for future research. The book's table of contents is shown at the end of this review in order to emphasize the list of authors and the range of topics are impressive.

Nearly 20 years ago Frank Williams discerned a symmetry to the geology of Newfoundland which was to lead, in more recent years, to the definition of five tectono-stratigraphic zones throughout eastern Canada: essentially about 5 years ago, they were traced into New England. The book considers (1) the boundaries between zone and zone, (2) the nature and origin of these zones, (3) the regional extent of them and the possibility of new zones and cut-outs to the south, (4) the timing of events that affected the zones, and (5) the evolution of the Northern Appalachians according to the views of various authors.

The volume is divided into two parts: The first emphasizes structural zones or terranes, and the second concentrates on the nature of the boundaries between these zones. The consensus seems to be that the various terranes are separated one from the other by major transcurrent faults which in some cases are perceived to be suture between pieces of continental crust. Horizontal movement between terranes whose internal integrity remains relatively constant is the basic assumption upon which the evolutionary models are constructed. In some cases horizontal shifting of many kilometers is evoked. Vertical movement is minimal and confined to the production of mountains and basins that resulted in the thickness of strata observed. It all hangs together within the context of what is now known about the northern Appalachians.

There are some points of disagreement between various authors; these are mainly confined to the timing of closure of the Iapetus Ocean. Several suggest the evidence points to a Taconian time while most point to evidence in their terrain of an Acadian closure. Clearly the resolution of this controversy will be a focus of future research.

In general, the volume emphasizes pre-Acadian geology with only two authors attempting to deal with post-Acadian structures and events. Both of these attempts are somewhat restricted in scope or approach, with one author working microcontinents thousands of kilometers to form Nova Scotia. Such inflated distances are not necessary: The Megana Platform is not unique to North America. Very similar deposits of the same age are found in Wales and the Carolina slate belt, as was reported by Nick Rast at a recent Geological Society of America conference.

Clearly there is still much to be accomplished, and the editors have done a superb job of pulling together a coherent story for the region. This is one of the few books of collected research reports where the introduction is as important as one of the invited papers. It should be read by all serious geologists.

In summary, this book argues from the geology towards the plate tectonic models based on that geology, rather than the other way round, and for this reason ought to withstand the ravages of time.

GEODYNAMICS SERIES

Dynamics of Passive Margins
(1982), R.A. Scruton (ed.), Illustrations, hardbound, 320 pp. \$20

"This is an excellent compilation of current data and theories pertaining to the evolution of passive margins. Dynamics of Passive Margins is recommended to anyone with even peripheral interests in this line of investigation."

Christine Powell
Department of Geology
University of North Carolina

Continental and Oceanic Riffs
(1982), G. Pöhlmann (ed.), Illustrations, hardbound, 320 pp. \$28

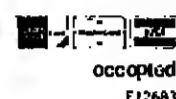
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Ian D. MacGregor
Office of Scientific Ocean Drilling
National Science Foundation

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Introduction, P. St-Julien and J. Beland

Structural Zones
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The Avalonian and Gander Zones in Central Eastern New England, J. B. Lyons, E. L. Houdette, and J. N. Abitbol

The Taconian Line in Western New England and Its Implications in Paleozoic Tectonic History, N. L. Hatch, Jr.
Geology of the Quebec Reentrant: Possible Constraints from Early Riffs and the Vermont-Quebec Seismic Belt, B. L. Dostal, M. H. Gale, P. N. Gale, and R. S. Hoar
Taconian and Acadian Structural Trends in Central and Northern New Brunswick, L. R. Fyfe

Acadian and Hercynian Structural Evolution of Southern New Brunswick, A. A. Raiten-berg and S. R. McCutcheon

The Structure of Paleozoic Oceanic Riffs Beneath North America, Newfoundland, R. T. Haworth and H. G. Miller
Zone Boundaries and Faults
The Bale Verne-Brunswick Line: Early Paleozoic Continental Ocean Interface in the Canadian Appalachians, H. Williams and P. St-Julien

Ophiolite Assemblage of Early Paleozoic Age in Central Western Maine, E. L. Houdette
The Dover-Hennepin Bay Fault: Boundary Between the Gander and Avalon Zones, Eastern Newfoundland, M. J. Kennedy, R. F. Blackwood, S. P. Colman-Saunders, C. F. O'Driscoll, and W. L. Dickson
The Pocomoke-Mt. Vernon Zone, N. Rast and W. L. Dickson
The Minas Geofracture, J. D. Keppie

Edward S. Bell is with the Department of Geology, Amherst College, Amherst, MA 01002.

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POSITIONS AVAILABLE

Groundwater Hydrologist/Jordan Correll Associates. The Geotechnical and earth science subsidiary of E.C. Jordan Co., Portland, Maine, has an opening for a senior groundwater hydrologist. Candidates should have an advanced degree in hydrogeology or geotechnical engineering and 5 years of professional experience in hydrogeology, geophysics, and soil science. Send resume to: Director of Personnel, Jordan Correll Associates, subsidiary of E.C. Jordan Co., 502 Congress St., Box 7050, Portland, ME 04112 (207) 776-2925.

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Geology Department Head/University of Cincinnati. The Department of Geology is engaged in a nationwide search for a Department Head, with an anticipated starting date of September 1983. The position is open to a senior geologist with a Ph.D. and a person with an established reputation in geological sciences to administer our department and to share in its future development. We have a strong teaching and research oriented faculty of 14 people. The Department began granting the Ph.D. degree in 1950 and currently has 76 students in Ph.D. and M.S. programs. There are strong ties with industry, which is reflected in the level of financial support and career opportunities for our students. Send applications, resume and names of at least three professional references to:

John J. Alexander, Chairman
Geology Search Committee
Department of Chemistry
University of Cincinnati
Cincinnati, Ohio 45221

Mail to: Box 672
University of Cincinnati
Cincinnati, Ohio 45221

Closing date for the position is December 1, 1983. The University of Cincinnati is an equal opportunity/affirmative action employer.

Geophysicist. New Mexico Institute of Mining and Technology invites applications for a tenure track position in exploration seismology at the assistant professor level to begin as soon as possible.

The position will be a joint appointment between the College Division and the Research and Development Division. A Ph.D. is required. Send letter of application, resume, brief description of teaching and research interest and names of three references to: Personnel, Brown Hall 17, New Mexico Institute of Mining and Technology, Socorro, NM 87801.

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Postdoctoral Research Associate Positions/Johns Hopkins University. Positions are available for studies of planetary magnetospheres, and for studies of earth magnetospheric and auroral physics, as well as in a newly initiated program in solar physics. Selected candidates will participate in the analysis and interpretation of data obtained from deep space probes (Voyager), or particle field, and solar atmospheric emissions data from earth orbiting spacecraft. Positions are one year, renewable opportunities with flexible starting dates. Contact: Ned Hall, Department LEB-3202, The Johns Hopkins University Applied Physics Laboratory, Johns Hopkins Road, Laurel, Maryland 20707.

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University of Minnesota Sedimentologist/Sedimentary Petrologist. Tenure-track position starting Fall 1984, probably at the Assistant Professor level. The candidate must have a Ph.D. with interest in stratigraphy of sedimentary basins, tectonics and sedimentation. Appointments are made on a full-time basis. Appointments are anticipated at the assistant professor level, although higher ranks may be possible, beginning in August of 1984. Candidates will be expected to have completed requirements for the Ph.D. degree by that time. Faculty members are required to provide quality instruction at both undergraduate and graduate level, and conduct research leading to scholarly publications. Successful candidates will be chosen from the following specialties:

Exploration Geophysics
Solid-Earth Geophysics
Hydrogeology
Analytical Structural Geology
Classic Sedimentology

Applications should send resume, transcripts, and names and addresses of three references to: Tom Freeman, Chairman, Department of Geology, University of Minnesota, 5655 University Avenue, Minneapolis, MN 55455.

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Department of Geology/Southern Illinois University at Carbondale. Applications are invited for a tenure track position at the Assistant or Associate Professor level starting in August, 1984.

Candidates must have the Ph.D. degree or expect completion by Fall 1984. Rank and salary are open depending upon qualifications and experience. We seek a candidate whose research and teaching interests are in the field of seismology. Persons with specific experience or expertise in applied seismology, petroleum exploration or ore deposits are encouraged to apply. Duties will include undergraduate and graduate teaching supervision of theses, and development of a research program in the area of specialization.

Application deadline is December 2, 1983. Send letters to Lawrence L. Malinowski, Department of Geology, Southern Illinois University, Carbondale, IL 62814. Southern Illinois University at Carbondale is an equal opportunity employer.

Meteorologist/The City College of The City University of New York. The Department of Earth and Planetary Sciences invites applications for an anticipated opening in meteorology. The appointment will begin September, 1984. Applicants should have completed the Ph.D. by the time of appointment and have a strong background in synoptic meteorology and computer applications. In addition, the individual should have an interest in atmospheric chemistry or pollution as applied to urban areas, or physical oceanography. The person hired will be required to teach courses in meteorology, and possibly physical oceanography as well as develop and maintain an active research program. Participation in the C.U.N.Y. Ph.D. Program in Earth and Environmental Sciences is anticipated. Rank and salary will be commensurate with experience. Send resume, transcript and three letters of reference by November 30, 1983 to Professor Dennis Weiss, Chairman, Department of Earth and Planetary Sciences, The City College, 138 Street and Convent Avenue, New York, N.Y. 10031.

The City College of The City University of New York is an equal opportunity/affirmative action employer.

Structural Geologist/University of Wyoming. The University of Wyoming, Department of Geology and Geophysics, is seeking applicants for a tenure track appointment in structural geology to be available beginning fall semester 1984 or earlier. Duties will include teaching of undergraduate and graduate courses in structural geology, supervising M.S. and Ph.D. theses, and research in structural geology. Appointment at assistant professor level is preferred, but applicants requesting appointment at higher level will be considered. Applicants must have a Ph.D. degree and be versed in quantitative theory as well as field applications of modern structural geology and regional tectonics.

Applicants should provide a resume, names of three references and a letter of application including a statement of current research interests and courses which the applicant feels qualified to teach. Applications should be sent to: Dr. Robert S. Houston, Department Head, Department of Geology, Geophysics, P.O. Box 3605 University Station, Laramie, WY 82071.

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RESEARCH POSITIONS AVAILABLE

The Lunar and Planetary Institute is a center for Planetary and Earth Science research associated with NASA programs. The Institute presently has 2 to 3 positions available at the postdoctoral and staff scientist levels. Appointments are initially for one year with the possibility of renewal for additional years.

Areas of current research interest at the Institute include: geophysical analysis of global data sets; planetary geology, including the analysis of surface images and theoretical and experimental studies of impact cratering; terrestrial remote sensing with special reference to volcanic phenomena; planetary tectonics, especially of Mars, Venus and the Earth; and the early crustal genesis of terrestrial planets.

Applications from specialists in all areas of planetary and earth science are invited and will be particularly welcome from researchers whose work augments or complements existing programs.

LPI facilities include a computer center equipped with a VAX 11/780, an image processing facility equipped with a Gould/DeAnza IP 8500, a geophysical data facility with interactive graphics capability, extensive library holdings in the geosciences, and a major collection of space photography.

The LPI, funded by NASA through the Universities Space Research Association, is located adjacent to the NASA/Johnson Space Center near Houston. Salary and benefits are competitive and attractive and depend on individual qualifications. Respond before Sept. 30, 1983 to:

Director's Office, LPI
3303 NASA Road 1
Houston Texas 77058
An equal opportunity employer

Iowa State University of Science and Technology, Department of Earth Sciences. Applications are invited for a tenure track faculty position in Meteorology. Rank is at the assistant or associate professor level, dependent upon qualifications. The successful applicant will be expected to develop a strong research and graduate student program and will teach undergraduate and graduate courses for meteorology majors.

The position is for a person with proven experience within the general area of dynamic meteorology. Teaching will involve an undergraduate course in synoptic meteorology, in addition to courses related to the field of expertise. Completion of the Ph.D. prior to appointment is strongly preferred. In addition, research ability shown by other publications and/or postdoctoral experience will be an advantage.

Iowa State offers degrees in meteorology through the Ph.D. The program includes about 60 undergraduate majors; the graduate program is strong and emphasizes theoretical, dynamic studies. Close relationships are established with the facilities and personnel of major national laboratories. New campus facilities in meteorology are currently under construction.

The appointment is expected to begin no later than September, 1984; an appointment during the current academic year may be possible. Application deadline is November 1, 1983; later applications will be accepted if the position is not filled. For application information please write to:

Dr. Bert E. Nordlie
Department of Earth Sciences
Iowa State University
253 Science I

Ames, Iowa 50011
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Earth Sciences

The Lamont-Doherty Geological Observatory of Columbia University invites scientists interested in any field of the earth sciences to apply for the following fellowships: Two postdoctoral fellowships, each awarded for a period of one year (extendable to two years in special instances) beginning in September, 1984 with a stipend of \$26,000 per annum.

Completed applications are to be returned by January 15, 1984. Application forms may be obtained by writing to the Director, Lamont-Doherty Geological Observatory, Palisades, New York 10964. Award announcements will be made February 28, 1984, or shortly thereafter.

Columbia University is an Affirmative Action/Equal Opportunity Employer.

Hydrogeologist, Hydrologist, or Water Resources Planner. The Kansas Geological Survey, a division of The University of Kansas, solicits applications for a hydrogeologist, hydrologist, or water resources planner. Permanent, full-time position subject to annual review. Salary Range: \$20,000-\$30,000 per year, depending on qualifications. Required qualifications: Master's degree in hydrogeology, hydrology, or related water resources field. Good work in theoretical hydrologic modeling and capability to apply these models to hydrologic and water planning problems to particular areas in Kansas. Preferred qualifications: Ph.D. degree in one of the above fields, and 2-3 years of research experience in water resources related studies.

Freedom to continue research within the framework of the KGS Geology Section's programs and support of a university environment. Opportunity for graduate study or teaching; and fully funded research opportunities in excellent research facilities.

Contact Personnel Manager, Kansas Geological Survey, 1930 Constant Avenue, Campus West, The University of Kansas, Lawrence, Kansas 66044 (Ph. 913/864-5505) for full position description, or to apply, send resume, college transcripts, list of published research, and three letters of reference. Priority will be given to applications received by October 31, 1983. Applications will be accepted and reviewed every thirty days thereafter until the position is filled.

AN EQUAL OPPORTUNITY/AFFIRMATIVE ACTION EMPLOYER.

Faculty Position Available/Massachusetts Institute of Technology. The Department of Earth, Atmospheric, and Planetary Sciences at M.I.T. is seeking to fill a faculty position in sedimentology. Applicants should preferably have an interest and ability in theoretical sedimentology, and would be expected to supervise graduate students and teach courses at the undergraduate and graduate level as well as conduct research in that field. Rank is open and depends upon qualifications.

Applicants should send their vitae, list of publications, and a statement of research and teaching interests, no later than November 1, 1983 to:

Prof. W. F. Buice, Chairman
Department of Earth, Atmospheric, and Planetary Sciences
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Postdoctoral Research Associate/University of New Hampshire. A magnetospheric physicist to analyze ULF data collected in Antarctica and at a conjugate site in Canada. An opportunity to correlate the data with other ground observations and satellite data for wave-particle interaction studies exist. Must have had some experience in ULF and be willing to travel to the Antarctic during the Austral summer. Position available January 1984 at the current salary \$15,000 to \$21,200; starting salary normally not to exceed \$15,540.

Send resume and names of three references no later than October 15 to: Dr. Roger Arnoldy, Physics Department, Bennett Hall, University of New Hampshire, Durham, New Hampshire 03824.

The University is an affirmative action/equal opportunity employer.

Tenure-Track Faculty Position/Geophysics/New Mexico State University. We are seeking a faculty member whose duties will include teaching both undergraduate and graduate level courses, conducting research and supervising graduate level thesis and dissertation research. We are particularly interested in a seismologist, but persons with expertise in other geophysical techniques are invited to apply. Minimum qualifications include an earned doctorate in geophysics or a closely related area and demonstrated research capability. Teaching experience and demonstrated ability to secure research funding are desirable. The position is available in January 1984 for 9-month academic year. Appointment will be at the rank of Assistant or Associate Professor. Salary and academic rank will be dependent on experience and qualifications.

Applications and resumes, addresses and telephone numbers of at least three references should be submitted to Dr. Chandler Swenberg, Department of Earth Sciences, P.O. Box 3AB, Las Cruces, NM 88003.

Applications received by October 15, 1983 will be given preference.

New Mexico State University is an Affirmative Action/Equal Opportunity Employer.

Professor of Marine Geophysics/Texas A&M University. The Department of Geophysics, Texas A&M University, is seeking candidates for a tenure track position in the broad area of marine geophysics and tectonics. We seek a creative scientist with experience in gathering, interpreting, and synthesizing marine geophysical data and whose research interests cover depositional, igneous, and tectonic processes on oceanic plates and continental margins. Inquiries are invited from marine geophysicists with demonstrated scientific record in one of the above aspects of marine geophysics or tectonics, who have demonstrated an ability to develop new ideas and research directions, to guide and teach graduate and undergraduate students. In considering this appointment we are interested in maximizing interactions with ongoing research groups in marine geology, plate tectonics, paleomagnetism, sedimentology and regional geology at Stanford. Our new faculty member will be expected to develop a strong research program involving both government and industrial participation.

Salary and rank will be commensurate with experience and background. Please submit a resume, a brief description of teaching and research interests, and references to:

Dr. Aron Nur
Department of Geophysics
321 Mitchell Building
Stanford University
Stanford, CA 94305

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PAGEOPH
pure and applied geophysics
CALL FOR PAPERS

The journal Pure and Applied Geophysics (PAGEOPH) is undergoing major changes. As of January 1983 its newly established editorial board will operate on a three-year basis, and PAGEOPH will be published by the US-based Birkhäuser Boston, Inc. Keiiti Aki is the new Editor-in-Chief, assisted in atmospheric and oceanic science by Richard Lindzen. Renata Dmowska serves as Executive Editor. At present the editorial board consists of:

Enzo Boschi
Stuart Crampin
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Kurt Lambeck
Douglas Lilly
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The new editorial board plans to preserve the international character of the journal, simultaneously ensuring the highest standards through a vigorous effort to publish papers of interest and quality. The PAGEOPH tradition of special issues will be further developed. These special issues serve as both state-of-the-art surveys and as introductions to active areas of research. They will be published in regular journal format, and also in inexpensive softcover editions. All page charges for contributions in these special issues will be dropped. There are no page charges for the first 12 pages of any contribution accepted for regular publication in PAGEOPH.

The new editorial board has been chosen to be rather equally divided between atmospheric and solid earth scientists. Management and editorial policies will reflect this dual specialization, with the eventual possibility of separate issues. Subscribers can be assured of thought-provoking, current research in both fields of geophysical science.

The call for papers is being announced. Manuscripts in solid earth science should be submitted to:

Dr. Renata Dmowska, Executive Editor
Division of Applied Sciences
Harvard University
Pierce Hall
29 Oxford Street
Cambridge, MA 02138 USA

Manuscripts in atmospheric and oceanic sciences should be submitted directly to an editor of your choice. Acceptance or rejection by the editorial board is final. All manuscripts should be submitted in triplicate, typewritten with double line spacing and wide margins. Detailed guidelines for contributors can be found in each issue of PAGEOPH.

Inquiries concerning subscriptions and/or general information should be directed to the publisher:

BIRKHÄUSER BOSTON, INC.
P.O. Box 2007
Cambridge, MA 02139 USA
(617) 876-2335

PAGEOPH
pure and applied geophysics

Chairman/Department of Geological Sciences/Wright State University. The Department of Geological Sciences invites applications for the position of chairman to be appointed September 1984. We seek a dynamic individual with administrative and an appreciation for research in a wide range of related activities. Rank is at the full professor level and no restriction has been placed on areas of specialization. The department is active in research and has a strong commitment in basic research. Send a letter of application, curriculum vitae and names of three references to:

Chairman, Search Committee
Department of Geological Sciences
Wright State University
Dayton, OH 45435

Wright State University is an affirmative action/equal opportunity employer. Closing date for the position is October 31, 1983.

Renata Dmowska Polytechnic Institute/A Tenure-Track Faculty Position and a Post-Doctoral Research Position. The Department of Geology at Renata Dmowska Polytechnic Institute is seeking applicants for two openings, a tenure-track faculty position and a post-doctoral research position.

The faculty position available in September 1984 requires a Ph.D. or equivalent degree. The area of specialization within the geosciences is open. Particular emphasis is on the application of geophysics to research in the earth sciences. The position will be awarded to a Ph.D. scientist who has demonstrated leadership and creativity in geophysics or space science. Reference will be given to individuals with research experience beyond the Ph.D. level of the appointment is open.

The postdoctoral position is available beginning January 1984 to do research in the field of fusion and its application to studies of sedimentary basins. Applicants must be knowledgeable and experienced in fusion research.

Our present department is part of a modern, technologically-oriented university, and consists of members whose collective expertise encompasses structural geology, geophysics, geochemistry, geology, glacial and surficial geology, and ecological modeling. The RPI environment provides ample opportunities for field and laboratory experimental research in geology, as well as for interdisciplinary studies in chemistry, physics, biology, mathematics, materials science, engineering and computer science.

Resume and the names of three previous employers.

would be willing to provide letters of reference should be sent to: Donald S. Miller, Chairman, Department of Geology, Rensselaer Polytechnic Institute, Troy, NY 12181. Rensselaer is an Equal Opportunity/Affirmative Action Employer.

Mass Spectrometry/Washington University.

The Department of Earth and Planetary Sciences of Washington University in St. Louis has an opening for a mass spectrometry specialist in a research laboratory. This position will involve responsibilities for the operation and maintenance of the laboratory as well as opportunities for collaborative and independent research in isotope geochemistry. A recently established thermal emission mass spectrometry laboratory. This position is highly desirable. Closing date for applications is September 15. Send curriculum vitae, list of references, and a letter of interest to: F.A. Podosek, Department of Earth and Planetary Sciences, Washington University, St. Louis, MO 63130.

Washington University is an equal opportunity/affirmative action employer.

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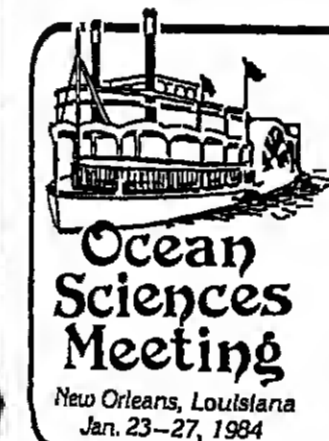
The University of California at Berkeley/Space Sciences Laboratory Senior Fellow Program. Research and teaching at both the undergraduate and graduate levels (M.S. and Ph.D.) with capability to do creative research in the geosciences. Reference will be given to individuals with research experience beyond the Ph.D. level of the appointment is open.

The postdoctoral position is available beginning January 1984 to do research in the field of fusion and its application to studies of sedimentary basins. Applicants must be knowledgeable and experienced in fusion research.

Our present department is part of a modern, technologically-oriented university, and consists of members whose collective expertise encompasses structural geology, geophysics, geochemistry, geology, glacial and surficial geology, and ecological modeling. The RPI environment provides ample opportunities for field and laboratory experimental research in geology, as well as for interdisciplinary studies in chemistry, physics, biology, mathematics, materials science, engineering and computer science.

Resume and the names of three previous employers.

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Ocean Sciences Meeting
New Orleans, Louisiana
Jan. 23-27, 1984

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Call for Papers published in Eos, July 5

SAVE MONEY: Preregister before January 6, 1984
Housing and registration forms were published in Eos, August 2

FLY DELTA: Call toll free: 1-800-241-6760
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2000 Florida Avenue, N.W.,
Washington, D.C. 20009
(202) 462-6903

Meetings

Announcements

Lightning Conference

The deadline for submitting abstracts to the 1984 International Conference on Lightning and Static Electricity is October 9, 1983.

Organizers of the conference, scheduled for June 28-29, 1984, at Orlando, Fla., are soliciting papers on phenomenology, channel modeling and coupling analysis, hardening of airborne and ground equipment, lightning risk criteria and techniques, effects of lightning on electrical and electronic systems, grounding and bonding, and protection of aircraft.

The 300-400 word abstracts, in English, should be sent to J. J. Fisher, Conference Chairman, U.S. Naval Air Systems Command, P.O. Box 15036, Arlington, VA 22215 (telephone: 202-692-7822). Abstracts and technical inquiries from Europe should be directed to G. Odum, European Coordinator, Royal Aircraft Establishment, Farnborough, Hants, GU14 5TD UK (telephone: 0252-24461, ext. 2658). Authors of accepted papers will be asked to submit a camera-ready copy of their article for publication in the conference proceedings.

The conference is being sponsored by several military and civilian air transportation agencies in the United States and in the United Kingdom as well as by the National Oceanic and Atmospheric Administration, the Institute of Electrical and Electronics Engineers, and the SAE-AEA Committee.

For more information contact Glenn E. Stout, Director, Water Resources Center, 2555 Hydrosciences Laboratory, University of Illinois, 208 Romaine Street, Urbana, IL 61801 (telephone: 217-243-0580).

Mid-Atlantic Bight

The 11th Annual Middle Atlantic Bight Physical Oceanography and Meteorology (MABPOM) Workshop will be held at the Lamont-Doherty Geological Observatory in Palisades, N.Y., October 19-20, 1983. For more information on this informal gathering of oceanographers and meteorologists working in the Middle Atlantic Bight region, contact Frank Alkman IV, Lamont-Doherty Geological Observatory, Palisades, NY 10964 (telephone: 914-959-2900, ext. 259).

Wastewater Seminar

A seminar on the Enhanced Biological Removal of Phosphorus from Wastewater will be held in Paris September 24-25, 1984. This gathering is an offshoot of the 12th Biennial Conference of the International Association on Water Pollution Research and Control to be held in Amsterdam September 17-20, 1984, and is a follow-up to a similar conference seminar held in Paris in 1982.

Seminar discussions will deal with the removal of phosphorus from wastewater by biological means in terms of microbiology; chemistry and biochemistry; pilot-scale studies; full-scale studies; treatment, handling, and disposal of phosphate-rich sludge; and research and development needs.

Authors interested in presenting papers at the seminar should submit a 500-word abstract in English by December 15, 1983, to: Michel Florentz, Phosphorus Seminar, Anjou Recherche, 52, rue d'Anjou, 75584 Paris Cedex 08, France (telephone: 768-91-50; telex: GENEAX 280 532 F). All contributions must be original and must be presented by the authors. Accepted papers will be published.

Urban Water

A conference on Urban Effects on Water Quality and Quantity will be held October 20-21, 1983, in Urbana, Ill. The conference will deal with federal and state perspectives on urban stormwater issues and with new research relevant to urban water problems in the Midwest.

The preliminary program includes reports on urban runoff and combined sewer overflows as they affect streams, lakes, and sediment chemistry, and on how runoff and overflow can be cleaned, controlled, predicted, and measured.

The conference will also include sessions on the results of the Environmental Protection Agency's (EPA) Nationwide Urban Runoff Program (NURP) and the U.S. Geological Survey's (USGS) Urban Studies Program.

NURP is a multiyear project in which 28 studies examine the origin of pollutants in urban stormwater runoff, the impact of urban stormwater on receiving streams, and the effectiveness of management practices in controlling stormwater pollution. In the USGS Urban Studies Program, data for water quality and quantity are being collected from more than 150 urban sites. EPA, USGS, the Illinois Section of the American Water Resources Association, the Water Resources Center of the University of Illinois, and four Illinois state agencies are sponsoring the conference.

For more information contact Glenn E. Stout, Director, Water Resources Center, 2555 Hydrosciences Laboratory, University of Illinois, 208 Romaine Street, Urbana, IL 61801 (telephone: 217-243-0580).

New Listings

Oct. 20-21, 1983 Conference on Urban Effects on Water Quality and Quantity, Urbana, Ill. Sponsors: EPA, USGS, AWWA, Water Resources Center of Univ. of Illinois, and four Illinois state agencies. (Glenn E. Stout, Director, Water Resources Center, 2555 Hydrosciences Laboratory, Univ. of Illinois, 208 Romaine St., Urbana, IL 61801; tel.: 217-243-0580.)

May 29-June 1, 1984 Joint Meeting: 18th Annual Congress of the Canadian Meteorological and Oceanographic Society (CMOS) and 11th Annual Meeting of the Canadian Geophysical Union (CGU), Halifax, Nova Scotia, Canada. (S. D. Smith (CMOS) or H. R. Jackson (CGU), Bedford Institute of Oceanography, P.O. Box 1006, Dartmouth, N.S. B2Y 4A2, Canada.)

June 26-28, 1984 1984 International Conference on Lightning and Static Electricity, Orlando, Fla. Sponsors: NOAA, IEEE, SAE-AEA Committee, and several military and civilian air transportation agencies in U.S. and U.K. (J. J. Fisher, Conference

AGU

Jack D. Fellows:
Congressional
Science Fellow

Jack D. Fellows has been selected as the 1983-84 AGU Congressional Science Fellow. Last week he began his 1-year stint on Capitol Hill as AGU's seventh Congressional Science Fellow.

Fellows received his Ph.D. earlier this year from the civil engineering department at the University of Maryland, College Park. For his dissertation he developed a management system using regional geographic information for hydrologic models. His work applied remote sensing data to the decision-making processes of regional planning organizations concerned with hydrology and natural resource management. The Maryland National Capital Park and Planning Commission has integrated Fellows' work into their programs on water resource and environmental planning; his approach also is being used for forest and water resource planning near Freiburg, Baden-Württemberg, West Germany.

As the AGU Congressional Fellow, Fellows said he is interested in "examining and experiencing the procedures, power, and interactions of the executive branch [of government], Congress, lobbyists, constituents, and special-interest groups during the life-cycle of legislation." He anticipates contributing to legislation on the environment, agriculture, public works, land use, and remote-sensing satellites. "I believe I can be of value on legislation concerning various topics in civil engineering, hydrology, environmental planning, image processing, and computer science," Fellows said.

His professional interests include the application of remotely sensed data to water resources problems; the use of remotely sensed data in planning and forecast models and in regulatory enforcement; the application of image processing techniques and of database management principles to remotely sensed data; and computer graphics.

Fellows received his B.S. and M.S. degrees in civil engineering from the University of Maryland. While at Maryland, he worked as a faculty research assistant in the Remote Sensing Systems Laboratory. He also was a faculty research engineer, a graduate research assistant, and an instructor/teaching assistant. He joined AGU's Hydrology section as a student member in 1981.

The AGU Congressional Science Fellow program is one of about 20 professional society programs that make up the American Association for the Advancement of Science (AAAS) Congressional Science and Engineering Fellows program. This program involves scientists and engineers in making public policy within Congress through work on members' staffs, on congressional committee staffs, or in some other area of Congress.—BTR

Chairman, U.S. Naval Air Systems Command, P.O. Box 15036, Arlington, VA 22215; tel.: 202-692-7822; or G. Odum, European Coordinator, Royal Aircraft Establishment, Farnborough, Hants, GU14 5TD U.K.; tel.: 0252-24461, ext. 2658).

Aug. 15-16, 1984 20th Annual Water Resources Conference, Washington, D.C. Sponsor: AWWA, (Arlene Dietz, U.S. Army Corps of Engineers, Institute for Water Resources, Casey Bldg., Fort Belvoir, VA 22060; tel.: 202-325-8768).

Nov. 15-16, 1983 20th Annual Water Resources Conference, Washington, D.C. Sponsor: AWWA, (Arlene Dietz, U.S. Army Corps of Engineers, Institute for Water Resources, Casey Bldg., Fort Belvoir, VA 22060; tel.: 202-325-8768).

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The Individual selected will spend a year on the staff of a congressional committee or a House or Senate member, advising on a wide range of scientific issues as they pertain to public policy questions.